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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,028	04/02/2004	Michael J. Regan	200311752-1	2774

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EXAMINER

LESTER, EVELYN A

ART UNIT PAPER NUMBER

2873

DATE MAILED: 12/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/817,028	REGAN, MICHAEL J.	
	Examiner	Art Unit	
	Evelyn A. Lester	2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 16-23 and 30-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 8-12, 15, 24-27, 29 and 33-35 is/are rejected.
- 7) ☒ Claim(s) 4-7, 13, 14, 28 and 36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.


Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.


EVELYN LESTER
PRIMARY EXAMINER

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>4-04, 8/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I (claims 1-15, 24-29 and 33-36) in the reply filed on 10-7-05 is acknowledged.
2. Claims 16-23 and 30-32 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 10-7-05.

Information Disclosure Statement

3. The information disclosure statements (IDS) submitted on 4-2-04 and 8-30-05 was filed before the mailing date of the this office action. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement has been considered by the examiner.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 8-10, 24 and 33-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Atobe et al (U.S. Patent 6,271,955 B1).

Atobe et al is interpreted as disclosing the claimed invention, as noted in Figure 8 and its accompanying text for example, of a spatial light modulator having an optically transmissive substrate (600), a semiconductor substrate (500) positioned a spaced distance from the optically transmissive substrate, a reflective-deflectable member (402) positioned between the optically transmissive substrate and the semiconductor substrate and supported by one of the optically transmissive substrate and the semiconductor substrate, the member configured to deflect from a rest position, or off position, to at least one operative position, or on position, when electrostatically attracted to at least one address electrode (512) located on the semiconductor substrate, and a "reset" electrode (514) operable to reset the deflectable member to the rest position.

With respect to claim 2, please note Figure 8.

With respect to claims 3, 8, please note for example at col. 10, line 58 to col. 12, line 14.

With respect to claim 10, note for example, Figure 10H.

With respect to claim 24, please note col. 11, line 65 to col. 12, line 14.

5. Claims 11, 12, 15, 24-27 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Huibers (U.S. Patent 5,835,256).

Huibers is interpreted as disclosing the claimed invention, as noted in Figures 1, 3A and 3B, for example, of a digital micromirror having optically transmissive substrate (20), a semiconductor substrate (34) positioned a spaced distance from the optically transmissive substrate, a deflectable mirror member (48) supported by at least one of the optically transmissive substrate and the semiconductor substrate, the mirror member deflectable between a rest position (i.e. off position) and at least one operative position (i.e. on position), at least one address electrode (28,32) operable on the deflectable mirror member to move the mirror member into the operative position, the address electrode having an address electrode voltage potential, and at least one "reset" electrode (42) operable to reset the deflectable member to the rest position (please also note at col. 8, lines 21-22).

With respect to claim 12, please note figure 1, at element 42 located on the semiconductor substrate (34) and between the deflectable mirror member (48).

With respect to claim 15, note Figure 6, for example and its accompanying text.

With respect to claim 24, please note at col. 6, line 17 to col. 8, line 27.

With respect to claims 25-27, please note the above explanation, with respect to claim 11.

With respect to claim 29, please note Figures 7A to 8, and their accompanying text.

6. Claims 11, 12, 15, 24-27 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Huibers et al (U.S. Patent 6,529,310 B1).

Huibers is interpreted as disclosing the claimed invention, as noted in Figures 3A and 3B, for example, of a digital micromirror having optically transmissive substrate (110), a semiconductor substrate (310) positioned a spaced distance from the optically transmissive substrate, a deflectable mirror member (120) supported by at least one of the optically transmissive substrate and the semiconductor substrate, the mirror member deflectable between a rest position (i.e. off position) and at least one operative position (i.e. on position), at least one address electrode (130) operable on the deflectable mirror member to move the mirror member into the operative position, the address electrode having an address electrode voltage potential, and at least one "reset" electrode (320) operable to reset the deflectable member to the rest position.

With respect to claim 12, please note Figures 3A and 3B, at element 130 located on the semiconductor substrate (310) and between the deflectable mirror member (120).

With respect to claims 15, 24 and 29, note Figures 3A and 3B, for example and their accompanying text.

With respect to claims 25-27, please note the above explanation, with respect to claim 11.

Allowable Subject Matter

7. Claims 4-7, 13, 14, 28 and 36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not show or fairly suggest the claimed subject matter of a spatial light modulator and/or digital micromirror having the claimed structure and claimed limitations, wherein a rejection under 35 USC 102 or 103 would be improper. Please particularly note the combination of claimed elements and claimed limitations, including as recited in claims 4, 13 and 28, wherein the reset electrode is optically transparent conductive material; as recited in claims 7 and 14, wherein the two substrates form a sealed chamber and a fluid is contained in the sealed chamber; and as recited in claim 36 wherein the resetting means generates an electrostatic force operable on the light reflecting means and functions independent of electronic circuitry present in the semiconductor substrate. Therefore, the claimed subject matter is considered to be allowable as being novel and nonobvious over the prior art.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Evelyn A. Lester whose telephone number is (571) 272-2332. The examiner can normally be reached on subject to an increased flex schedule, M-F, 10-7pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky L. Mack can be reached on (571) 272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2873

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Evelyn A. Lester
Primary Examiner
Art Unit 2873

eal
12-24-05